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USSR Report

ECONOMIC AFFAIRS

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USSR REPORT

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ECONOMIC POLICY, ORGANIZATION AND MANAGEMENT

GOSPLAN OFFICIAL INTERVIEWED ON ECONOMIC EXPERIMENT

Moscow IZVESTIYA in Russian 3 Jun 84 p 2

[Interview with L. A. Voronin, first deputy chairman of the Gosplan USSR, by IZVESTIYA correspondent V. Sukhachevskiy: "Checking by Practice"; date and place not specified]

[Text] [Question] The interview "What Is Favorable to the Plant Is Favorable to the State" was published in the New Year's issue of IZVESTIYA. Then, Lev Alekseyevich, we talked about the reasons for conducting the economic experiment and the problems in improving the economic mechanism that have to be resolved in the course of carrying out the experiment. As chairman of the commission for overall management of the experiment, perhaps you could summarize some of the results and draw some initial conclusions.

[Answer] Now, I can only speak about the beginning of a great undertaking. There is some progress. Let us compare the work of the experiment participants last year and during the 4 months of this year. We will take one of the main indicators--fulfillment of the plan for product deliveries in accordance with concluded contracts. Today, this indicator is 99.8 percent (it was 97.6 last year) in the Ministry of Heavy Machine Building, 98.7 (96.6) in the Ministry of the Electrical Equipment Industry and 99.9 (98.8) in the Belorussian Ministry of Light Industry. The Ukranian food industry and Lithuanian local industry fulfilled delivery plans completely (last year these indicators were 98 and 98.4 percent respectively).

There are still more attractive figures. Last year 71 percent of the Ministry of Heavy Machine Building enterprises did not fulfill the delivery plan. Today, this figure has been reduced to 12. In the Ministry of the Electrical Equipment Industry these figures are 67 and 39 percent respectively and 33 and 3 percent in the Belorussian Ministry of Light Industry. The Ukranian food industry and Lithuanian local industry now do not have any enterprises which are not meeting the quotas for such an important indicator. But last year, in each of these republics nearly one-third of the plants and factories were behind. Today, all the ministries participating in the experiment have surpassed the goals for increasing labor productivity and lowering production costs. But, I repeat, this is only the beginning. Time is needed for more complete conclusions.

[Question] The indicators are indeed impressive. Nevertheless, it raises a question. In your opinion, Lev Alekseyevich, has the experiment completely exposed its potentialities or have any resources been discovered?

[Answer] Many important aspects of the experiment have only started to have an effect and their return in the course of introducing the new economic mechanism will increase. First of all, I should mention the further improvement of planning methods, including increasing the period of working up the basic plan quotas, which makes better conditions for more active participation by labor collectives in planning. This will make it possible to increase substantially the plan's quality and its balance and reliability of providing resources.

[Question] The experiment is checking and working out the most efficient principles of economic management. As any check, it has probably identified not only positive aspects of working in the new way, but has also raised some new questions. Certain economic administrators and economists believe, for example, that the normative base needs to be improved considerably. Administrators of the Dinamo Plant have been saying that, as a result of lowering production materials consumption, the enterprise has saved one million rubles. But, under the existing rates, it received 40,000 rubles in its money box. This is hardly equitable.

[Answer] There is a problem here and we must work on solving it. I dare say that lowering production materials consumption must become one of the most important indicators of an enterprise's work, and appropriate incentive be given for it. Something else should also be said. Most plants and associations have not yet felt the real significance of earnings resources for the production development fund and the social and cultural measures and housing construction fund.

There are several reasons here. Due to the limited pre-planning period, enterprises have not been able to develop planning and technical documentation for modernizing and replacing equipment for technical re-equipment of production. Prior to the development of the plan, there also did not exist any coordinated norms for satisfying equipment and other demands. Thus, despite the existence of standards for forming the production development fund and forming on this basis the financial sources of material support, it is still not giving the corresponding output. Moreover, the Ministry of Heavy Machine Building and the Ministry of the Electrical Equipment Industry raised the question of decreasing the development fund for 1984 and increasing centralized capital investments. Therefore, it is not so much a matter of fixed standards as it is the ability to use what we have.

To overcome these shortcomings, in the appropriate sections of the draft plan for 1985, we envision reflecting not only the total sums of the development fund, but also the satisfaction of specific demands for material support.

[Question] It is known that one of the main problems in the national economy is that of material and technical supply and the sale of finished products. In this connection, the idea is frequently expressed that it seems that

favorable supply conditions have been established for the enterprises participating in the experiment. Furthermore, it is emphasized that the experiment will "bog down" when its boundaries are expanded since, they say, it is impossible to extend the "favorable" support to all sectors. What can you say in this regard?

[Answer] Such an assertion is erroneous. First of all, the enterprises working in the new conditions are provided material resources according to established norms. We are not talking about additional resources, but about receiving precisely what is needed and receiving it on time. Furthermore, the experiment's mechanism itself helps to increase delivery discipline. The fact is that it is in the material interests of the collectives to observe the contracts strictly. This, in turn, improves the supply of needed products to other sectors of industry and the national economy as a whole. Secondly, the inclusion of new sectors in the experiment will not be done "suddenly", but as conditions are prepared for this.

[Question] Also generally in favor of your point of view is the fact that certain enterprises working under the new conditions today are encountering supply shortages. For example, workers of the Novocherkassk Electric Locomotive Building Plant have more than once complained to IZVESTIYA about the Magnitogorsk metallurgists' failures to deliver metal. Really, what kind of advantages are these....

[Answer] Yes, there were such instances. They once again showed the pressing need for improving the supply and market mechanism. Increasing responsibility for fulfilling contract obligations and a leading role for the delivery indicator in cost accounting requires a reorganization of existing forms of marketing products and more active participation in this matter by territorial supply organs. The USSR Gossnab has already taken steps to change the procedure of product deliveries in amounts below the direct shipment norms. It will be shipped together with other products to the address of the territorial organ of the USSR Gossnab situated according to the location of the consumer. Presently we are also considering the possibility of organizing such deliveries to territorial bases according to the location of the supplier.

[Question] We will hope that the resources identified in the course of the experiment will be able to be put into action as quickly as possible. At the same time, the many advantageous features of working under the new method are also apparent. Consequently, the scope of the experiment must be expanded. When will this be and on what scale?

[Answer] Our commission has instructions to examine the question of preparing to extend the provisions of the experiment, starting in 1985, primarily in those sectors where their application has already been checked. This applies to machine building, food, light and local industries and domestic services for the public.

In the switch of the union-republic and republic ministries of the food, light and local industries as well as domestic services for the public to operation under the new method, we should proceed from the fact that in 1985 there must

be two or three such ministries in each union republic. This will enable the republic organs to accumulate experience and to prepare for shifting the entire republic economy (or the bulk of it) to operation under the new method beginning in 1986.

Secondly, we need to continue the course of developing and introducing measures for improving the economic mechanism and the various sectors of industry, differentiated / according to their special operation characteristics. For this, preparation for an experiment starting in 1985 is underway in a number of raw material sectors, for which the experience of five ministries cannot be comprehensive. I mean the USSR Ministry of Ferrous Metallurgy, the Ministry of Petroleum Refining and Petrochemical Industry and the Ministry of the Chemical Industry. I also think that, later on, transportation and trade must be included in the scope of the experiment.

[Question] Allow me to make one fundamental definition. Expanding the boundaries of the experiment--is this simply, so to speak, a qualitative change, a transfer of developed management principles to other sectors? Or does it assume a further search for more ideal operating methods?

[Answer] Exactly. Along with expanding the boundaries of the experiment, the in-depth development of its provisions will continue. In particular, the Gosplan believes that it is necessary, by way of experience, to expand the scope of the production development fund at individual major enterprises having a modern technical base and trained personnel. The main point is for enterprises, through efficient use of internal resources, to be able to maintain equipment and production technology at a modern level, ensure a high quality of goods produced with an increase in work efficiency and, on this basis, make payments to the national budget which increase each year of the five-year plan.

We must create conditions under which associations and enterprises will not be requesters of capital for technical re-equipment, but will earn it themselves and efficiently use it.

The Ministry of the Motor Vehicle Industry and its AvtoVAZ Association have made interesting suggestions on this matter. The association is preparing to implement, beginning in 1985, an entire process of simple reproduction on cost accounting principles, with a guarantee of a high technical standard and quality of motor vehicles produced, based on continual improvement of equipment and production technology.

Further increasing the role of the social and cultural measures and housing construction fund in providing an economic stimulus for increasing production efficiency can be another important direction in the in-depth development of the economic experiment.

[Question] Are there some problems today which require urgent resolution?

[Answer] Yes. Here is a simple example. The methods of monitoring fulfillment of the state plan, both locally and in a number of ministries, at times

do not take into account the characteristics of working under the new method. We know that fulfillment of contract deliveries has become one of the main indicators today. However, local organs sum up fulfillment of the plan and socialist obligations according to the overall volume of realization. Thus, the experiment orients the labor collectives toward output of a specific, needed product, but the procedure of summing up the work, here and there, re-establishes the old, obsolete method.

I think that such problems can and must be resolved.

[Question] Probably, throughout the year, new circumstances of both a positive and negative nature will arise. On behalf of the readers of IZVESTIYA, I want to express the hope, Lev Alekseyevich, that we will continue today's conversation.

[Answer] Certainly, in the course of the experiment certain experience will be amassed and we will be able to make useful conclusions and find solutions for the problems that arise. This, strictly speaking, is the essence of the experiment aimed at improving the economic mechanism.

12567
CSO: 1820/159

ECONOMIC POLICY, ORGANIZATION AND MANAGEMENT

BOOK ON ECONOMIC MANAGEMENT EDITED BY BUNICH CRITIQUED

Moscow EKONOMICHESKIYE NAUKI in Russian No 4, Apr 84 pp 110-112

[Review by V. Praude, professor and doctor of economic sciences, of book "Sistema upravleniya ekonomikoy razvitogo sotsializma. Tendentsiii i problemy" [The Economic Management System of Developed Socialism. Trends and Problems] edited by P. G. Bunich, corresponding member of the USSR Academy of Sciences, Ekonomika, Moscow, 1982, 304 pages]

[Text] The economic system of a mature socialist society is characterized by development of the scientific and technical revolution, structural reorganization of public production, and by a decisive turn toward intensive methods of managing the national economy. All this objectively requires new forms and methods of management.

The monograph being reviewed is devoted to theoretical summarization of accumulated experience, analysis of the practice of economic management, and to investigation of the basic directions for improving the economic management system (in the broad sense of this concept).* Four sections in it may be arbitrarily distinguished. In the first one, the general theoretical problems of management linked with utilization of the economic laws of socialism are examined (Chapters 1 and 2). The second section throws light on the functioning mechanism of basic subsystems in the economic management system: planning, motivation and organization of management (Chapters 3-6, 10-12). In the process, particular attention has been devoted to the problems of developing long-range planning and working out a system of optimizing models; provision for the interrelationship of stimulation with the efficiency of production by improving evaluative indicators, pricing and other economic levers and stimuli; and improvement in the organizational aspects of management. The third section is devoted to analysis of the influence of the management system (of its basic and special subsystems) on the development of scientific and technical progress and capital construction (Chapters 8 and 9). In the fourth section, new trends in development of socialist economic integration as a whole, as well as in the CEMA member countries taken separately, are examined (Chapters 13-15).

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* The collective of authors: A. G. Aganbegyan, V. Yu. Budavey, P. G. Bunich, D. M. Gvishiani, N. T. Glushkov, R. N. Yevstigneyev, O. V. Kozlova, D. S. L'vov, K. I. Mikul'skiy, A. A. Modin, G. B. Pravotorov, A. M. Rumyantsev, N. P. Fedorenko, T. S. Khachaturov, O. A. Chukanov.

The thesis that the realization by each member of society of himself as a co-proprietor of all means of production and the vital wealth of life, as a responsible coproducer of this wealth, does not come spontaneously is presented as scientifically and theoretically sound and having important practical significance. This depends on the totality of real relationships, on the realization of common interest (See p 13).

Reorganization of the economic mechanism with the aim of shifting to a primarily intensive type of socialist reproduction and increasing the efficiency of the economic system requires the corresponding changes in utilization of the economic laws of socialism. In discussing the mechanism of operation and utilization of economic laws in the current stage, the authors advance and substantiate, for the first time in the economic literature, the viewpoint of differences between the operation and influence of the laws (See p 42). The theoretical and practical significance of this principle is illustrated by specific examples. The work differentiates between objective economic interests and specific stimulating motives for labor activity of the members of society. At the same time, those viewpoints in which the interests, stimuli and demands are identified are fairly criticized. The conclusions of the first section are important to comprehend those specific problems in the functioning of the management system which are brought to light in subsequent sections of the monograph.

The book supports the theoretically correct, in our view, amplifying interpretation of the law of time economy, which takes into account inputs of work time not only on production of one type of material wealth or another, but also on other stages of the reproduction process, to the extent that products are brought to the consumers. Precisely this overall sum of time inputs for reproduction of goods characterizes efficiency in public production to the greatest extent. The suggestion concerning practical utilization of such an indicator (even if estimated) in accordance with a consolidated products list merits attention (See p 49). However, the viewpoint indicated is not developed when the problem of long-range planning is examined. The degree to which public demands are met is not taken into account here in determining the economic efficiency of production, which is treated in a narrower sense of the word (See p 59). It seems to us that any savings in resources should be aimed at the end result, to meeting demands more fully, which is one of the important characteristics of the economic efficiency of production.

As is well known, a programmed and special-purpose method of planning is being widely developed in the 11th Five-Year Plan. For this reason, it is not a coincidence that much attention is devoted in the book to the content and basic directions for utilization of this method. We have to agree with the authors that at present, not so much a further increase in the number of programs as an adjustment of the methods of putting them together and coordination with other planned objectives is becoming urgent. (See p 66).

In recent years substantial advancement has been observed in the area of creating a system of models of a national economic plan. The book examines new aspects in developing certain models of national economic forecasting. In

particular, the problems of improving the methods of mathematical modeling of social processes and creating systems of ecological and economic models for planning and management of environmental conditions are urgent under current conditions. A system of evaluations is needed, the authors conclude, which makes it possible to define and compare different environmental conditions and to outline long-term directions for their evolution and methods of exerting influence on them (See p 92).

Attention is drawn to the question of the necessity for broader application of a mathematical-economic system in refining and putting into effect the Food Program of the USSR. The development of agriculture, to a greater extent than many other sectors, is probable in nature, which must be reflected in optimizing models. The work cites two important objectives in methodological procedure for those who work out the mathematical-economic models. In the first place, the authors believe that it is expedient to promote research in accordance with an inventory of what has been accumulated in these models in order to compare it with a list of the tasks being resolved at various levels of management and to eliminate duplication. Secondly, we cannot proceed from some ideal notion about the functioning of the national economy, and interrelated activity to improve the economic mechanism and to develop systems of mathematical-economic models for it is needed (See pp 102-103).

Consolidation of planned management of the economy requires further development of cost accounting based on planned indicators and economic standards of the five-year plan and active utilization of the entire system of economic levers and incentives. On a high theoretical level, taking into account the most important practical tasks to improve planning and cost accounting, the work investigates the interrelationships of balancing, efficiency and stimulation. It is correctly stressed that short supply (as the exact opposite of balancing) becomes apparent primarily in the predominance (within definite limits) of the supplier over the consumer. Specific proof is shown of the damage caused to the national economy by such "companions" of short supply as an increase in reserve commodity stocks of raw material and materials and irregularity of deliveries; the "naturalization" of the economy of enterprises; an increase in uncompleted construction; frequent plan adjustments; the narrowing of enterprises' independence, and other factors. Eliminating these shortcomings and bringing about the necessary balancing of production is one of the most important reserves for increasing production efficiency.

At present, basically the extent of plan fulfillment is taken into account when the activity of collectives is evaluated, but the measure of their intensity and degree of economy is not given proper attention. In this regard, the book argues the need for a shift to evaluation of collectives' work according to the level of efficiency, as distinct from evaluation according to plan fulfillment. At the same time, the approaches named are not exact opposites, for they consistently reinforce each other. Further, provision of incentive to collectives must also depend on the level of efficiency. It seems that the concept advanced in the book under review merits attention, experimental verification, and further discussion in the press. In particular, there can be discussions on the criteria in accordance with which efficiency is determined.

Providing incentive for a level of efficiency is a necessary condition, but not the only one for implementing a regime of economy. Another condition is improvement in price formation. In analyzing the different theoretical views in the formation of wholesale prices and the practice of pricing, the authors come to the conclusion that in a period of a sharp turn by the national economy toward efficient development, a new function of the planned price begins to advance to the forefront--a normative function. Unfortunately, this position is not developed subsequently when the basic principles of the functioning of wholesale prices introduced as of 1 January 1982 are set forth. One can hardly agree with the position that the standards for net production appear as a new evaluative indicator, either (See p 125).

A special place in improving production efficiency belongs to scientific and technical progress. In examining the basic trends in its development, the authors persuasively demonstrate the necessity for a sounder allocation of resources in all stages of the "science-technology-production-consumption" cycle. For example, insufficient resources obviously are being allocated at present for assimilation of new technology and the tasks of the technical reequipment of production are not being fully resolved. However, this idea is not developed later on when the problems of improving the management of scientific and technical progress are examined. This section (See pp 154-161) is basically descriptive in nature, and the reader does not find specific proposals in it to resolve the pressing problems of programmed and special-purpose management: the interaction of territorial and sectorial administrative organs, contractual relationships among participants in the program, and so forth. A serious obstacle in increasing the efficiency of new technology, the book notes, is the difference in the two systems of economic accounting: the first concerns basic production activity, and the second is utilized in planning and providing incentive for scientific and technical progress. At the same time, each of them has its own criteria and its own system of indicators. As a result, the indicators of cost accounting efficiency often are at variance with the indicators of national economic efficiency (See p 168).

In the opinion of one of the book's authors, the state of affairs in evaluating the efficiency of new technology is complicated by the fact that the principle of equalization on the local levels of production efficiency which have taken shape is proclaimed as the fundamental principle in individual procedures. In particular, certain aspects of the new wording of the Standardized Procedure for Determining the Economic Effectiveness of Capital Investments are criticized (See p 170). Another author (See Chapter 9) defends the necessity of differentiating the standards of efficiency by sectors of the national economy, taking into account the conditions of their economic development. It is maintained that this differentiation has been predetermined to a certain extent by the proportions and rates of development being established by the plan (See p 201). Obviously, problems concerning the theory of the effectiveness of capital investments remain open to discussion as before and require further investigation. Unquestionably (and there is no divergence of opinion among the authors on this) a reorientation of the entire system of management for scientific and technical progress and intensification of production is necessary.

It is extremely important to find a national economic optimum in approaches to management. The monograph singles out three approaches to economic management: the problem and special-purpose, the sectorial, and the territorial. In revealing the merits of each separately, the authors come to the correct conclusion, in our view, that the ideal is achieved only under a combination of sectorial and territorial management (See p 206). To support this viewpoint, the work examines the experience accumulated in territorial planning and management in developing Siberia and the Far East.

Implementation of the decisions of the November (1982), the June and December (1983) and the February (1984) plenums of the CPSU Central Committee depends primarily on the activity of the primary cells of the national economy--enterprises and associations. In recent years, many published works have appeared in which the organizational and technical and socioeconomic aspects of an enterprise's activity are examined. The monograph makes a fruitful attempt to coordinate both these sides, presenting the enterprise as a complex self-organizing system and as a part of the total system at the same time. A number of proposals to improve the organization of management within enterprises are advanced. In addition to that, the reader would be interested in obtaining a more thorough analysis of the data appearing in Table 6 (See p 249). The theory and practice of socialist economic management need a comprehensive evaluation of the course of collectivization of industry and an analysis of the effectiveness of different forms of associations.

The last section of the book has an abundance of figures and examples which demonstrate the advantages of socialist economic integration as a factor to increase production efficiency. It is correctly noted that in the current stage of integration development, further improvement in its economic mechanism is necessary. Especially needed, in the authors' opinion, are improvement in the mechanism of management of international specialization and cooperation of production, development of a concept of coordination of national economic plans, development of principles of agreement in economic policy, utilization of the commodity-money relationship, and so forth.

It is impossible to list all the problems examined in the book in a brief review. Familiarization with this work will help the reader to extend his economic knowledge and will contribute to a sounder solution of complex urgent problems in further improving the system of managing the economic system of developed socialism. The book is of interest to specialists in the field of political economy and management theory, economic executives, students in the higher section of the economic education system , and students of economics faculties.

8936
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UZBEK PRICE EXPERT NOTES IMPACT OF NEW WHOLESALE PRICES

Tashkent EKONOMIKA I ZHIZN' in Russian No 2, Feb 84 pp 19-21

[Article by G. Kuleshova, first deputy chairwoman, UzSSR State Committee on Prices: "The New Wholesale Prices and Enterprise Activity"]

[Text] The system of planned price formation is a key tool for implementation of the economic policy of the CPSU for managing the socialist economy.

Improvement of the whole economic mechanism and intensification of its impact on raising the efficiency of social production depend greatly on the quality of price formation.

The price, established for all consumer goods on a planned basis, is a normative standard for both production expenditures and the profitability of social production.

All value indicators used in planning and national economic accounting are based on the system of planned prices, and the indicators of economic and cost accounting depend directly on their accuracy and reliability.

But the potential contained in the economic nature of prices cannot be realized automatically. It is essential to constantly improve the price formation system.

The wholesale prices in effect in our country were shaped on the basis of 1967 prices and are in large part out of date, because they do not reflect significant changes that have occurred in production.

Therefore, concurrently with the decree of the CPSU Central Committee and USSR Council of Ministers entitled "Improving Planning and Strengthening the Impact of the Eccnomic Mechanism on Raising Production Efficiency and Work Quality," a decision was made for further refinement of wholesale prices and rates in industry.

It is common knowledge that wholesale prices compensate sectors, subsectors, and normally operating enterprises for economically substantiated expenditures for production of output and insure the receipt of profit in the amounts necessary to carry on their economic activity.

The new wholesale prices introduced in the republic and work according to them in 1982 made it possible to secure fulfillment of the plan for volume of commodity output by industry at a level of 102.5 percent and to fulfill the plan for sale of output by 101.8 percent.

With the introduction of the new wholesale prices it was possibly to even out the sharp fluctuations in the profitability of producing a number of articles which had occurred when the old prices were in effect. The number of unprofitable and low-profit enterprises and articles was also reduced.

The table below shows a comparison of volumes of commodity output and corresponding growth in profit.

Employment of the new wholesale prices reduced the proportion of unprofitable enterprises by more than 60 percent, and enterprises with an average level of profitability already constituted 65 percent.

Therefore, the new prices established the necessary economic conditions for cost accounting in all elements of industry and promote practical realization of the comprehensive measures outlined by the party and government.

Report figures for 1982 confirm that in the review of wholesale prices there are no significant deviations from the standards. At the same time, it should be noted that analysis of the impact of the new wholesale prices on output made it possible to identify the low economic indicators of certain enterprises. For example, the manufacture of rubberoid and other plates from production waste materials proved unprofitable despite a 50 percent increase in the wholesale price. This was linked to the above-norm writing off of production waste. In the first quarter of 1983 alone the production of these plates had a profitability of 7.3 percent of prime cost.

Here is another example. Production of output according to Price List No 061404 at enterprises of the Main Administration for Construction in Tashkent proved unprofitable, just 0.8 percent where the standard was 9.7. A careful review of the reasons for this situation revealed that price supplements for change in the grain size of the aggregate, for cold-resistance, and the like were not used in distributing the output. And when wholesale prices were being established for ready-for-use reinforcements the price envisioned manufacture by welding technology, where in fact it was done manually at the construction site.

In the wood processing sector, which produced commodity output worth 38.3 million rubles, profitability declined to 4 percent compared to the standard of 8.6 percent. The primary reason was growth in the prime cost of output because of incomplete use of available capacities and failure to fulfill plan indicators because of short deliveries of wood.

The effect of the new wholesale prices was positive for all financial and economic indicators in the food, meat and dairy, and light industries.

Of course, positive work results in industrial sectors and enterprises are not caused by the introduction of new prices alone. But price formation organs,

Table

Министерства и ведомства (1)	Рост объемов товарной продукции в %% за счет изменения (2) уровня цен	(3) Прибыль (4) в ценах: до 1982 г. тыс. руб. (5)	(4) в ценах: с 1982 г. тыс. руб. (6)	Сумма изменения (7)	%%
Минлегпром УзССР (a)	123,1	207271	263141	+55870	127,0
Минместпром УзССР (b)	103,2	73466	74143	+ 677	100,9
Минстройматериалов (c) УзССР	124,2	10513	58106	+47593	552,7
Минавтотранс УзССР (d)	101,1	7573	6391	— 1182	84,4
Минпищепром УзССР (e)	103,9	47299	67190	+19891	142,1
Минплодоовощхоз (f) УзССР	100,0	14228	4704	— 9524	33,1
Узглавстройдревпром (g)	119,2	—3232	—1957	+ 1275	—
Минлесхоз УзССР (h)	100,9	735	715	— 20	97,3
Госкомсельхозтехника (i) УзССР	106,3	8818	8350	— 468	94,7
Минсоцобеспечения (j) УзССР	103,4	445	416	— 29	93,5
Минмебельпром (k) УзССР	98,4	36154	30024	— 6130	83,0
Узбекское общество (l) глухих	100,0	3721	3721	—	100,0
Узбекское общество (m) слепых	107,1	7118	7752	+ 534	108,9
Госкомиздат УзССР (n)	105,0	2050	1817	— 233	88,6
Узбекохотрыболовсоюз (p)	100,0	457	457	—	100
Минстрой УзССР (p)	105,2	17503	18533	+ 1030	105,9
Главташкентстрой (q)	112,9	12782	14812	+ 2030	115,9
Минводхоз УзССР (r)	112,4	1129	2514	+ 1385	222,7
Госкомводстрой (s)	103,6	6254	6084	— 170	97,3
Минсельстрой УзССР (t)	122,1	—4491	2014	+ 6505	
Минавтодор УзССР (u)	95,5	12047	8039	— 4008	66,7
Минмонтажспецстрой (v) УзССР	104,1	6383	5928	— 455	92,9
Главсредазирсовхозстрой (x)	105,4	3750	9929	+ 6179	264,1
Узбекгидроэнергострой (y)	105,2	938	489	— 449	52,1

Key:

(1) Ministries and Departments;
(2) Growth in Volume of Commodity Output as % due to Change in Price Level;
(3) Profit;
(4) In Prices;
(5) Before 1982, thousands of rubles;
(6) Since 1982, thousands of rubles;
(7) Sum of Change;

(a) UzSSR Ministry of Light Industry;
(b) UzSSR Ministry of Local Industry;
(c) UzSSR Ministry of the Construction Materials Industry;
(d) UzSSR Ministry of Motor Transport;
(e) UzSSR Ministry of the Food Industry;
(f) UzSSR Ministry of the Fruit and Vegetable Industry;
(g) UzSSR Main Administration of Construction for the Timber Industry;
(h) UzSSR Ministry of the Forestry Industry;
(i) UzSSR Goskomsel'khoztekhnika;
(j) UzSSR Ministry of Social Security;
(k) UzSSR Ministry of the Furniture and Wood Processing Industry;

[Key continued, next page]

[Key continued]

(l) Uzbek Society of Deaf and Dumb;
(m) Uzbek Society of the Blind;
(n) UzSSR State Committee for Publishing Houses, Printing Plants, and the Book Trade;
(o) Uzbek Union of Hunting and Fishing Enterprises;
(p) UzSSR Ministry of Construction;
(q) Main Administration for Construction in Tashkent;
(r) UzSSR Ministry of Land Reclamation and Water Resources;
(s) State Committee for Water Resources Construction;
(t) UzSSR Ministry of Rural Construction;
(u) UzSSR Ministry of Highway Construction and Maintenance;
(v) UzSSR Ministry of Installation and Special Construction Work;
(x) Main Administration for Sovkhoz Construction in Central Asia;
(y) UzSSR Hydroelectric Power Construction Organization.

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basing themselves on data on prices and advance calculations of production expenditures, must intensify the auditing of prices and not allow a single case of setting them too high.

The wholesale prices established for cultural-domestic and household goods also had a positive effect on increasing their production. In 1982 when a total of 121.7 million rubles of goods were produced and actual prime cost was 102.3 million rubles, the average profitability for the entire price list was 18.9 percent of prime cost.

Thus, the new wholesale prices for cultural-domestic goods stimulated enterprises to produce them.

In this connection we should remind all economic managers that a simplified procedure has been put into effect for submitting price calculation materials to price formation organs. It applies to all enterprises that produce non-food consumer goods.

I would also like to direct the attention of enterprise economists to the fact that any changes in wholesale prices entail changes in the value indicators of national economic plans, thus necessitating a review of the established relations between sectors of the national economy and the state budget.

Therefore, to stabilize wholesale prices and rates it is envisioned that they will be reviewed no more often than once very five years.

At the present time the "boiler" [kotlovoy] method of accounting for expenditures is used in planning and advance calculation of the prime cost of output and reporting is simplified; in numerous cases calls the for this is the exclusion of prime cost from plan indicators. The use of this method of accounting distorts the actual labor and material expenditures as well as the indicators of profit and growth in labor productivity.

Advance calculation of expenditures by specific types of output, as required by the fundamental statutes on planning, accounting, and advance calculation of

the prime cost of output, will promote more exact computation of the prime cost of output and give an enterprise incentive to produce these goods.

Concurrently with the introduction of the new wholesale prices a review was conducted of the price increases of supply and marketing organizations, which in 1982 enabled them to cover handling costs and receive essential profit. At the same time, during analysis of the work of 30 supply and marketing organizations it was established that some of them engage in transshipment of goods, thus increasing the share of price increases in handling costs paid by the supplier. For the republic as a whole, these expenditures constitute 14 percent, and at certain organizations they are more than 50 percent. For example, at Uzdortranssnab [possibly UzSSR Administration of Supply for Highway Transportation] warehouse turnover is 8,104,000 rubles and price increases paid by suppliers are 261,000 or 43 percent of handling costs. At Vuztekhsnabsbyt [possibly Administration of Supply and Marketing for Technical Equipment for Higher Educational Institutions] of the UzSSR Ministry of Higher and Secondary Specialized Education warehouse turnover is 4,836,000 rubles and these costs are 52 percent, which illustrates the significant volume of output delivered to the warehouses from the depots of other supply and marketing organizations, mainly from depots of the system of UzSSR Gossnab. This duplication of the work of Gossnab by other department organizations raises the price of the output. Therefore, we must step up the transfer of the functions of departmental supply and marketing organizations to UzSSR Gossnab.

In order to investigate the state of productive capital and conservation of material resources at enterprises more carefully, the decree of the CPSU Central Committee and USSR Council of Ministers entitled "Improving Planning and Strengthening the Impact of the Economic Mechanism on Raising Production Efficiency and Work Quality" envisions determining profitability in the manufacturing sectors of industry as the ratio of profit to prime cost minus the cost of raw and processed materials, fuel, energy, semifinished parts, and assembly components used.

This profit in an absolute amount is also taken into account in determining normative net output for articles. By using this procedure for establishing profitability the UzSSR State Committee on Prices also intensifies the role of prices in reducing materials-intensiveness and labor-intensiveness of the output produced.

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ECONOMIC MODELING AND COMPUTER TECHNOLOGY APPLICATION

BOOK ON MATHEMATICAL MODELING OF ENTERPRISE MANAGEMENT REVIEWED

Moscow EKONOMIKA I MATEMATICHESKIYE METODY in Russian No 2, Mar-Apr 84
pp 367-370

[Review by V.M. Portugal of book "Ekonomiko-matematicheskiye modeli v sisteme upravleniya predpriyatiyami" [Economic-Mathematical Modeling in the System of Enterprise Management] by unnamed authors, Moscow, "Nauka", 1983, 400 pages]

[Text] The monograph being reviewed reflects the results obtained by the Soviet school of production management optimization, in particular by workers at the Central Economics and Mathematics Institute, over the past 20 years.

The mongraph consists of an introduction, nine chapters and a conclusion. Chapter 1 deals with the problems of economic-mathematical modeling at industrial enterprises and organization of the data base for solving optimization problems. Chapter 2 considers the prerequisites for modeling, and here the authors propose a structuralization for the decisionmaking process in on-line management of production and a differentiation of classes of economic tasks and the systematization of their forumlation. Economic-mathematical optimization models in long-term and current planning for enterprises are described in chapters 3 and 4. The main types of models in calendar planning, including mechanical-processing production, and methods for solving a number of practical problems of this kind are covered in chapters 5 through 7. A broad class of problems in optimal planning and production regulation requires the use of network models and methods. A system of network models for on-line production management and methods for solving the corresponding tasks are suggested in Chapter 8. Examples of sets of models for drawing up an enterprise annual plan and for on-line control of production are shown in Chapter 9.

Under the conditions of present-day computer equipment, the methodology for optimal management of enterprises is based on two assumptions that determine the basic difference between it and traditional management methods. The first is the idea of multiple variation in virtually any economic situation and the requirement for selecting one--the optimal--from a large number of management solutions. The second is the need to process data on the kind of large scales that presuppose complete or partial formalization of methods for decisionmaking in managerial tasks, using a computer, that is, the use of economic-mathematical modeling facilities.

The basis of the new methodology is a set of economic-mathematical models of economic situations that occur during the implementiation of the various functions involved in the management of an enterprise.

Right from the beginning of its existence, economic-mathematical modeling has been forced to resolve the contradictions traditionally existing in the science of production management. One of these is the dialectic contradiction between the type of production and the production structure. What is optimal for a given type of structure cannot always be implemented, not least because a particular type of production may be considerably more dynamic. Enterprise capacities are built up historically, but the production program changes every year; and the question of which of them comes first is resolved unambiguously only for newly created enterprises. Each year the amendments to the production program on the one hand restrain the structure of capacities, while on the other they lead gradually to disparity between these factors, which requires a change in the very structure itself. It is precisely because of this, the authors point out (pp 93-94), that conformity between the concepts of "class," "element of the production structure," "problem situation" and "formulation of the problem" is ambiguous. Taking into account the variety of combinations of the first three elements, it became necessary to introduce the concept of "production-economic situation," that is, the situation of decisionmaking, in order to describe the initial conditions of a problem. It should also be noted that a situation in which the type of production and the production structure do not match immediatley eliminates any possibility of finding the most advantageous solution since the losses are predetermined by the situation itself.

Traditional science on the organization and planning of production long since set the task of forming production structures and drawing up long-term, current and operational plans and calendar-plan normativs. Way back in the Fifties the leading Soviet economists in the field of enterprise management (K.G. Tatevosov, S.A. Sokolitsyn) understood the great variability of management situations, but since no optimization apparatus had been developed they looked for a solution with the aid of regular methods of economic analysis. Thus, economic-mathematical modeling may be considered the natural development of the science of production organization and planning.

In the early days economic-mathematical modeling encountered an enormous number of production-economic situations. The inadequately precise definition of the concepts "type of production," "production structure" and others led to the need to deal with the classification of situations. The desire for constructive results provided incentive for the appearance of specific developments of models for individual situations, and of problem-solving algorithms. Sometimes the great variety of the models creates specific difficulties, especially for enterprise workers, who are trying to select a model that is suitable for a given set of conditions. There are few published models that duplicate each other; their great variety is determined by the great number of parameters used to describe the production-economic situation.

The authors sharply raise the question of the need for a constructive classification of production structures and hence, of production-economic

situations. This would enable: determination of the "empty spaces," that is, production-management situations for which models have not yet been developed; determination of the place of each model developed at this time in production management systems; the creation of some handbook of models whereby, according to the parameters of a situation, it would be possible to obtain a ready-made "recipe" for management.

It is probable that at the present stage in the development of the traditional and the economic-mathematical directions in the science of production organization and planning it is necessary to combine their efforts in order to develop the fundamental concepts of types of production. Until this has been done, either direction can offer only isolated fragments and developments designed for the most well-known production-economic situations.

The authors of the book offer a systematization of meaningful formulations of production and reserves management tasks (pp 111-127). These formulations are regarded as a certain reflection of the production-economic situations that arise during the course of compilation of five-year and annual plans for an enterprise as a whole, and of shorter-term plans (under a year) for shops; and also for individual sections of production during the process of regulation. All this will undoubtedly be of assistance to systems developers in orienting themselves better in the great variety of formal and informal descriptions of economic-mathematical tasks contained in the literature, and in selecting what is from their viewpoint the best solution.

And one more typical feature in the development of economic-mathematical modeling shown in the book: the main field of application chosen is planning. Of course, planning is a traditional field for optimization. It is precisely at the stage of plan compilation that it is easiest to assess the variability of a situation and the importance of selecting the best plan. And the effect of optimization is more obvious in planning. However, it was noted long ago that great variability, and hence the need for optimization, is seen both in the organization of production as its structure and management are improved, and in all the other functions of the latter (except planning): accounting, analysis, operational regulation and so forth. Notwithstanding, the book deals almost completely with economic-mathematical modeling of the planning process.

The book is of a primarily methodological nature. Despite the fact that some of the material presented in it throws light on practical experience in realization of the proposed methods, it main thrust is to develop an integrated methodology for optimal intraplant planning. Optimization methods are proposed for drawing up long-term, current and operational plans for enterprises at both the general plant level and the inter- and intrashop level.

The synthesis of these parts is expressed in the review of the makeup of and the sequence used in the realization of management decisions at the enterprise, first at the level of meaningful descriptions and then in the form of a set of optimization tasks and formal models. This makes it possible to organically combine traditional forms of production management with their economic-mathematical presentation within an automated management system. True, the use of this

approach in the book is not shown for all aspects of management activity but only in the example of sets of models for drawing up an enterprise annual plan and operational planning for production (in the final chapter).

Despite this, the authors clearly trace the sequence and links in planning calculations from the basic tasks of long-term planning through to the stage of production regulation.

For long-term planning models are proposed for selecting time frames for the start of implementation of drafts for technical-economic development and new construction, the replacement of old articles with new ones, and the allocation of tasks through the years of the five-year plan (Chapter 3). For current planning, generalized models are considered for optimization of the annual production program. Here, use is made of a well-developed apparatus of linear programming and it is primarily the practical aspect of building these models that is reflected. They are occupying an increasingly firm place in the system of enterprise management. The following are named as reasons for the success of economic-mathematical modeling in this field: a) the relative independence of long-term planning models from the type of production, which establishes an extensive range of enterprises that can use these models; b) the quite strict regulation of current planning, which also insures extensive applicability of developments; c) the successful form of modeling, namely matrix models for technical-economic planning and so forth (Chapter 4).

Things are by no means as good with the introduction of models for operational-production planning. The authors state that despite the enormous amount of work on this, in practice these kinds of models have not become widespread; and they analyze questions associated with this. The development of automated operational-calendar planning systems in no way signifies that optimization methods are used extensively in them. In general, the opposite picture is seen: as a rule, planning calculations are made according to the traditional or slightly modified methods, and without optimization. So why, on the one hand does the book show a large number of optimization models developed for different types of production when, on the other hand, only isolated models have been realized in practice?

The main reason for this is indicated by the authors: the weak connection between the economic indicators for enterprise work and what is being optimized. During the process of operational-calendar planning, it is the volume of uncompleted output and the use of enterprise resources that is being optimized. But the economic indicators for this work depend on the fulfillment of a plan for nomenclature, volume and time periods, on factors that act as constraints, that is are unconditionally fulfilled, in optimization models for planning.

Thus, if an enterprise has adequate reserves of resources its plan is not stepped-up and it does not experience any special need to optimize operational-calendar planning. Does this mean that in this field enterprise management has no need for optimization? Of course it does not. Gradual improvement of the economic mechanism leads to a situation in which work according to

stepped-up plans becomes more advantageous; and then optimization in the use of labor, material and energy resources and fixed capital and decreases in the level of uncompleted production become key factors in improving work efficiency.

Another reason for the poor use of optimized models for calendar planning has already been shown above--the considerable lacunae in the field of the formalization of production structures. Because of this, for example, models for intershop planning are being introduced much more intensively that intrashop models. The former are written on the basis of network technological schedules and find application in an extensive range of production types, from series production with a long production cycle for articles, to individual production, since the structure of intershop cooperation has to some extent been formalized.

It should be noted that for intershop planning for the case of short production cycles for articles the models and methods of linear programming are used. Because of this there is special interest in the multiple network model with variable intensities for the completion of unit operations and with constraints on technical-economic indicators, such as is suggested in the book for intershop planning under conditions of long production cycles (Chapter 8).

The switch from intershop planning to intrashop planning is accomplished with the aid of a model for formulating detailed monthly plans, taking into account rational batches of parts production, by working through an extremely complicated model, namely for irregular production machine building (Chapter 6). At the same time the authors point out that a considerable number of models for intrashop planning do not find application in actual production because even for one and the same type, such an extensive range of organization methods is used that each production section is virtually individualized from the viewpoint of modeling.

Obviously this is precisely why in the book, within the framework of a unified methodological approach to the optimization of internal plant planning, much space is devoted to calendar models, which make up the basis of production planning and regulation complexes. Both the clarification of the concept of "calendar planning" at the model level, and the standardization and classification of models effected on this basis are extremely useful. It is productive from the viewpoint of orienting specialists on automated management systems to distinguish the basic calendar models and the most important directions in modifications to them in adaptation to the resolution of specific economic tasks (Chapter 5).

Among the specific models, attention is drawn to the one that describes mechanical production with sequential and parallel-sequential completion of operations. Its great universality with respect to the reproduction of technological features of production processes substantially adds to the possibilities of using different criteria in the technical-economic plan during optimization. It is important that by conducting extensive experimentation on the basis of the parameter approach developed by one of the book's authors for each of the criteria, fields are determined for the effectiveness of any given heuristic rules of preference as a function of the specific production-economic situation (Chapter 6).

In another model of calendar planning for mechanical-processing production, an attempt is made to formalize the activity of a section foreman in allocating work among workers, taking into account the wages for their corresponding occupational skills, experience and so forth. This somewhat extends the traditional boundaries of tasks in calendar planning.

Network models and methods for planning and regulation designed for optimal control under conditions of large production cycles are well covered in the book (Chapter 8). For the first time a set of models is developed for optimal planning and regulation in assembly shops employing a nonflowline form of production organization. The practical organization of flowline assembly in large machine building with series output has required the development of new methods. A set of network models is proposed for the planning and regulation of flowline assembly with long cycles (tens and hundreds of hours). The development of methods for solving complex network optimization tasks is particularly timely. Economic algorithms are derived for solving the tasks listed in allocating resources in multidimensional network models. A method is proposed for dichotomous imposition for solving the inverse problem of optimization of a network model, applicable to a broad class of practical management tasks, including the network task shown for intershop volume-calendar planning. The effectiveness of the method presented is confirmed by the results from experimental studies.

The section devoted to heuristic methods for solving calendar tasks is of special interest. Confirmation of the basic uniformity of algorithm realizations of this method is of great significance for the development of this approach, and the book offers a constructive classification both of the algorithms themselves and of the heuristic rules of preference. The generalization of methods (including original methods) for selecting effective heuristic algorithms for solving calendar tasks is basically new, and promising (Chapter 7).

The book does not go into the kind of detail found in a handbook, in which a practical worker would be able to find the model he needs from the formalized description of production. This is still not possible, as the authors show, because of the lacunae mentioned above in the field of formalization of production structures. But the book does provide a sequential and complete set of methods for building this kind of description, in parallel with its development of the science of production organization and planning. In addition, the methodology developed can be used with success in each specific case for creating a system of planning optimization at an enterprise or in a production association.

The monograph clearly traces the connection between the models shown and the algorithms used to solve planning tasks. It is clear that if a planning model is of a pragmatic nature it also superimposes corresponding limitations on the methods for solving planning tasks. Taking this into account, the authors consider methodological questions in the derivation of economic algorithms along with the problems of modeling (chapters 7 and 8).

Finally we note that the examples given and the extensive bibliography constitute a special kind of vade mecum on the numerous specific developments, and this

will of use to specialists seeking the models that interest them both for the purpose of studying planning methods and for introducing them at their own enterprises.

In conclusion it should be said that the review monograph is on the whole a serious contribution to the development of optimal management theory for production associations and can serve as a fine aid in introducing specific methods and models in this theory into everyday practice.

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RSFSR VUZ MINISTRY SPONSORS REGIONAL DEVELOPMENT CONFERENCE

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[Report by Yu. Novikov and M. Portyanko, docents and candidates of economic sciences (Syktyvkar), on conference: "Regional Problems in the Development of the Economic Mechanism During the Stage of Mature Socialism" in September 1983 in Syktyvkar]

[Text] The head council on political economy of the RSFSR Ministry of Higher and Secondary Specialized Education held an extended session at Syktyvkar University for the discussion of "Regional Problems in the Development of the Economic Mechanism During the Stage of Mature Socialism" (Spetember 1983). It was attended by political economists from the VUZ's of the Russian Federation and other union republics and by representatives of scientific establishments, Gosplan, ministries and several production associations in the Komi ASSR.

In his introductory speech, Secretary N.P. Zashikhin of the Komi CPSU Obkom underscored the pertinence of this topic and the urgent need for the study of its regional aspects. He paid special attention to problems in the coordination of the activities of ministries and departments whose enterprises and organizations are part of the Timano-Pechorsk territorial production complex; the management of fuel and energy and forestry complexes as a single organism for the production of the final regional product; the improvement of organizational and economic interrelations on the regional level of the agroindustrial complex; the social development of the territorial production complex.

Methodological and analytical aspects of the economic mechanism were discussed in a report by Chairman of the head council, Doctor of Economic Sciences N.D. Kolesov (Leningrad State University). He discussed the regional peculiarities of socialist production relations, which, in his opinion, are connected with the distinctive features of the territorial and sectorial structure of the region, with the significan economic, geographic and natural differences between various regions and with the existence of objective regional and departmental interests. As productive forces develop, some elements of the regional economy become more distinctive and others lose their particular features. The improvement of the economic mechanism, the speaker concluded, presupposes consideration for the regional peculiarities of each of these elements.

The discussion of regional aspects of the economic mechanism was conducted in four different scientific fields.

1. Methodolgical and Analytical Aspects of the Economic Mechanism

Dcotor of Economic Sciences D.N. Namazov (Bukhara Pedagogical Institute) and Candidate of Economic Sciences A.A. Denisov (Sverdlovsk Institute of the National Economy) directed special attention to the pratical value of studies of regional problems in the economic mechanism. D.N. Namazov stressed, in particular, that the efficient distribution of productive forces and the use of territorial factors of economic growth depend on the degreee to which the economic mechanism reflects territorial differences in the physical conditions of production. Many speeches dealt with the nature of the regional aspect of the economic mechanism. Candidate of Economic Sciences Yu. S. Novikov (Syktyvkar University) discussed the two prevailing approaches to the study of the regional economic mechanism--reproductive and territorial (or spatial).

Among the objective conditions influencing the regional economic mechanism, Candidate of Economic Sciences A. N. Noskova (Syktyvkar University) mentioned regional economic interests, which reflect the region's attitude toward the development of productive forces as one of the conditions of a higher standard of living for the laboring public. Candidate of Economic Sciences R.M. Ayzatullin (Bryansk Institute of Transport Machine Building) substantiated the premise that territorial differences in levels of labor and production collectivization represent the deep-seated material foundation of regional peculiarities of the economic mechanism. Pointing out the existence of objective and subjective facets of the economic mechanism, Candidates of Economic Sciences T. A. Malygina (Gomel University) and T. I. Varlashkina (Khabarovsk Polytechnical Institute) stressed the need for the thorough study of the peculiarities of the economic mechanism during the stage of mature socialism and regional possibilities for its use and for the determination of the socioeconomic goals of the development of the economic subsystem. Candidate of Economic Sciences A. V. Chuvashayev (Bashkir University) discussed the economic mechanism within the structure of the state system that assists the state in the management of economic relations and processes. The principal way of bringing this mechanism closer to the regional economy consists in augmenting the role of local soviets in national economic management.

Speakers called the efficient use of natural resources a component of the regional subsystem of the reporductive process, and they defined its socio-economi mechanism as a regional facet of the economic mechanism (V.S. Gorokhova--Khabarovsk Polytechnical Institute). Speakers suggested that a higher level of production collectivization will strengthen the dialectical connection between sectorial and regional interests in the area of conservation. In this connection, Candidate of Economic Sciences A. K. Ryabichkov (Mari Polytechnical Institute) proposed a single system of interrelated indicators for sectorial and territorial environmental protection plans.

Analyzing the effects of socialis economic integration on the socioeconomic development of the region, Candidate of Economic Sciences V. D. Pol'skiy

(Syktyvkar University) examined the process by which such features of the socialist way of life as internationalism are developed. Candidate of Economic Sciences I. K. Pronichev (Syktyvkar University) discussed the aspects of socioeconomic policy that have the deciding effect on regional features of economic management under the conditions of the transfer to socialism by countries with a socialist orientation.

2. Forecasting and Planning the Regional Economy Under the Conditions of Developed Socialism

The report by Doctor of Economic Sciences V. F. Semenov (Kazan University) on the effective coordination of general and specific features in the improvement of planning in the territorial production complex focused the most attention on the discussion of problems in this scientific field. The speaker substantiated the need for a single administrative body in the territorial production complex, procedural aids for socioeconomic planning on the regional level, and territorial and production complex passports.

During the discussion of V. F. Semenov's report, speakers expressed the common opinion that the efficient planning of the regional economy presupposes the study of regional factors heightening production efficiency. The foundations of the impact of the reproductive process in the region were examined in a joint report by Doctor of Economic Sciences P. P. Pertsev and Candidate of Economic Sciences I. R. Bugoyan (Rostov Construction Engineering Institute). The speakers proposed a model describing the process by which the physical structure of the production accumulation fund (with a particular cost volume) can be adapted with the aid of interregional economic ties to the requirements of the intraregional accumulation and growth of real public income. The structure of the regional accumulation fund, according to these speakers, reflects the influence of interregional economic relations and the level of production collectivization.

The measurement of the social consumption value of regional fixed capital was the subject of the report by Doctor of Economic Sciences S. N. Polyakov (Petrozavodsk University). The speaker analyzed two aspects of consumer value: genetic and functional. Each presupposes a system of indicators allowing for the assessment of the exploitation of means of labor and their concealed reserves and the determination of prospects in various fields of scientific and technical progress. In conclusion, S. N. Polyakov acquainted session participants with the method of calculating a system of fixed capital indicators for the region, sector and national economy.

Different opinions were expressed on the evaluation of production efficiency. Candidate of Economic Sciences Ye. N. Grisimova (Leningrad University) proposed that the optimal functioning of the production system be assessed with the aid of several indicators of the internal structure of the technical and economic state of this system. According to Candidate of Economic Sciences G. K. Kharadze (Novosibirsk Institute of Geodesic Engineering, Aerial Photography and Cartography), the most important indicator of regional economic efficiency could be the difference between actual and normative regional production costs.

Many speakers focused attention on problems in the efficient functioning of the regional reproductive subsystem. Candidate of economic sciences A. M. Meylakhov (Ukhta Industrial Institute) proposed a comprehensive system of product quality control, the same for all enterprises involved in the technological process of the manufacture of the final product and located within a limited territory. Specific proposals were made in connection with the improvement of territorial planning, the development of a more efficient informational network and the establishment of standards for the compilation of plans on the territorial level (Candidate of Economic Sciences D. A. Konovalov--Komi Branch of the USSR Academy of Sciences). Candidate of Economic Sciences V. P. Perepechenko (Vologda Polytechnical Institute) stressed the importance of the active use of comprehensive interregional programs for the more thorough coordination of sectorial and territorial interests. The need to establish regional consumption standards for public utilities as a basis for the efficient planning of public services was mentioned in the report by Candidate of Economic Sciences L. N. Frolova and L. Z. Sandrigaylo (Syktyvkar University).

The need to augment the role of local soviets in regional economic management was underscored in several speeches, and their important role in the use of regional factors of production development was stressed (Candidate of Economic Sciences A. S. Baskin--Udmurt University). Candidates of Economic Sciences M. N. Meshcheryakova and L. N. Bukatina (Togliatti Polytechnical Institute) proposed the creation of a single administrative body to manage the social infrastructure and oversee the work of local soviets; the use of enterprise allocations for the construction of housing and sociocultural and consumer facilities through local soviets; the granting of broader authority to local soviets in the sale of above-plan consumer goods.

3. Territorial Aspects of the Formation and Use of the Labor Force, and Factors Stimulating Regional Economic Development

Doctor of Economic Sciences A. V. Solov'yev (Kostroma Technological Institute) discussed methodological and analytical aspects of the formation of the regional labor force. The local territorial administrative network should include a unified vocational guidance and job placement service; manpower limits should be set for enterprises with a view to the availability of labor in the region; for the purpose of the redistribution of manpower from densely populated regions to new ones, limits on the number of workers and employees at enterprises and organizations in the established regions should fall below available manpower levels, and they should surpass these levels in the regions needing development.

The report by Candidate of Economic Sciences M. L. Portyanko (Syktyvkar University) dealt with the economic relations involved in the regional regulation of available resources.

The speakers' statements aroused lively discussion. Whereas A. V. Solov'yev assigns the main role in the formation of the labor force to territorial administrative bodies, Doctor of Economic Sciences N. I. Popova (Perm University) and Z. B. Luk'yanenko (Perm Agricultural Institute) assign it to the primary economic link. In reference to the territorial and sectorial

planning of labor resources, Candidate of Economic Sciences V. V. Terent'yev (Komi Branch of the USSR Academy of Sciences) proposed better methods of measuring and evaluating the labor potential of various categories of the population and their distribution among occupations. G. V. Zagaynova (Komi Branch of the USSR Academy of Sciences) pointed out the need for a more efficient method of organizing traveling work parties and the preparation of a series of measures to regulate migration patterns.

Candidate of Economic Sciences S. Kh. Sazhin (Komi Branch of the USSR Academy of Sciences) underscored the close connection between migration patterns and territorial differences in the public standard of living.

His studies have revealed a tendency toward the equalization of the public standard of living in the European North with the union average. This tendency does not promote the creation of identical living conditions on the territorial level. The speaker proposed that the territorial planning of the standard of living be based on standard consumer budgets reflecting regional differences. In her report, Candidate of Economic Sciences L. A. Belousova (Leningrad Institute of Finance and Economics) underscored the role of the system of balances, social standards and calculations of various characteristics of the regional standard of living.

Various points of view were expressed on the law of distribution in proportion to needs. Candidate of Economic Sciences G. I. Gulyayev (Leningrad Polytechnical Institute) said that the objective basis of the regional regulation of wages consists of territorial differences in working and living conditions. The only law lying at the basis of territorial wage differences, in his opinion, is the law of distribution according to labor. Candidate of Economic Sciences G. P. Krivonogov (Arkhangelsk Forestry Engineering Institute) believes that the entire system of distributive relations is regulated by a single economic law--the law of distribution according to labor. The opposite opinion was expressed by Candidate of Economic Sciences R. K. Mazitova (Kazan Aviation Institute): As a multifaceted economic category, wages are the reflection of more than one economic law. The connection between regional public demand and the territorial distribution of the necessary products was pointed out by Candidate of Economic Sciences N. Ye. Gabyshev (Yakut University) and V. A. Tyurnin (Moscow University). They believe that this connection is based on territorial differences in public income in accordance with differences in the goods needed for the reproduction of manpower on the socially necessary level. They stressed the importance of improvement in the machinery for the implementation of this law (the standardization of regional coefficients irrespective of branches of the national economy, and the regulation of territorial wage differentials).

When questions connected with the social infrastructure were discussed, the factors determining its regional structure and level of development were the main topics (Candidate of Economic Sciences T. A. Paderina--Syktyvkar University). Candidate of Economic Sciences V. N. Akhmeyev (Komi Pedagogical Institute) proposed that efficient patterns of service use be mapped out with a view to the territorial peculiarities of the living and working conditions of the laboring public and a system of territorially differentiated norms and standards per unit of service.

4. Socioeconomic Problems in the Management of Intersectorial and Territorial Production Complexes. The speakers who reported on these problems developed and clarified the conclusions and premises in the report by Doctor of Economic Sciences V. I. Batrasov (Gorkiy University) and the joint report of Doctor of Economic Sciences V. A. Vityazeva (Syktyvkar University) and Candidate of Economic Sciences V. N. Lazhentsev (Komi Branch of the USSR Academy of Sciences). V. I. Batrasov examined the methodological and analytical aspects of the economic mechanism within the sphere of the regional agro-industrial complex; several suggestions were made with regard to the improvement of its organization and management. In particular, he proposed that the council of the rayon agroindustrial complex be granted broader authority in the redistribution of maximum allocated material, financial and labor resources, that the performance evaluation indicators and incentives of enterprises and organizations making up the rayon agroindustrial association be reorganized according to the final results of their work, and that intersectorial systems be planned for the encouragement and enhancement of the responsibility of members of the labor collective for the final product.

V. A. Vityazeva and V. N. Lazhentsev focused attention on current problems in the socioeconomic development of the Timano-Pechorsk territorial production complex. They substantiated the need to compile a general plan for the financing of capital investments, the use of this plan as a way of influencing finance and credit agencies to promote the comprehensive and balanced development of the economy, the formation of a unified capital investment fund by using part of the funds of ministries and enterprises for the construction of production and socioconsumer facilities common to industrial centers and territorial production complexes, and the creation of a territorial capital construction administration, which will take charge of the centralized use of the unified capital investment fund.

To reveal new features in the development of the territorial production complex, many speakers proposed that it be examined not only as a form of production force dynamics, but also as a reproductive subsystem of the unified national economic complex (Candidate of Economic Sciences N. V. Kamel'skikh--Kazan Chemical and Technological Institute). Discussing ways of improving the economic structure of the Timano-Pechorsk territorial production complex, M. M. Gavrilenko (Komi branch of the USSR Academy of Sciences) proposed that it be treated as an independent object of planning and that the ratio of extractive to processing sectors be changed in favor of the latter. To neutralize the rising cost of the development of northern natural resources, Candidate of Economic Sciences V. A. Startsev and G. N. Anikina (Komi Branch of the USSR Academy of Sciences) feel that a natural resource complex should be put in operation instead of individual deposits. In a discussion of the future distribution of productive forces, Candidate of Economic Sciences G. P. Mamayev (Syktyvkar Branch of the Advanced Training Institute of the USSR Ministry of the Timber Industry) and A. G. Mamayev (Komi Branch of the USSR Academy of Sciences) substantiated the proposal that woodworking and wood-processing enterprises be concentrated directly in the country's large timber industry zones.

Many reports dealt with the efforts of the economic mechanism within the sphere of the agroindustrial complex. The promotion of the

organizational and economic establishment of this complex by new developments in the machinery of intersectorial ties was underscored. They enrich the economic mechanism with organizational structures, forms and methods of managing the reproductive process in the region (Candidate of Economic Sciences N. A. Alekseyev--Irkutsk Agricultural Institute). Candidate of Economic Sciences G. V. Kanev (Komi Branch of the USSR Academy of Sciences) felt that identical economic conditions for the functioning of all sectors of the agroindustrial complex could be established by means of economically sound purchase prices for agricultural products in relation to prices and tariffs in various links of the complex and regions of the country. He suggested that the northern economic region be designated as a separate pricing zone.

Speakers emphasized the need for a comprehensive approach to the development of the regional aspect of the economic mechanism and the improvement of all its links in their interaction and interdependence.

Recommendations aimed at more thorough political-economic studies of the regional aspect of the economic mechanism, the enhancement of their practical value and their reflection in the academic study of socialist political economy were adopted at the final plenary session.

8588
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LENINGRAD OBLAST UNDERTAKES 'INTENSIFICATION-90' PROGRAM

Program Promotes Computerized Systems

Leningrad LENINGRADSKAYA PRAVDA in Russian 8 Aug 84 p 1

[Interview with Igor' Alekseyevich Glebov, chairman of the Presidium of the Leningrad Scientific Center of the USSR Academy of Sciences by Correspondent Yu. Kirillov; date and place not given]

[Text] Today a new heading is being introduced in the pages of our newspaper: "Intensification-90". It is devoted to the development and accomplishment of a territorial and sectorial program of economic intensification -- a program aimed at tomorrow, a program which will provide for the maximum utilization of the production and scientific-technical potential. This important initiative of the Oblast Party Organization was reflected in the CPSU Central Committee resolution "On work conducted by the Leningrad Obkom [Oblast Party Committee] of the CPSU on strengthening economic intensification in the 12th Five-Year Plan on the basis of accelerating scientific-technical progress".

What are the basic directions of the adopted program, which affects the interests of millions of people and which takes into account the active participation of each worker in Leningrad and the oblast? This was the question that was the basis of the discussion our correspondent, Yu. Kirillov, held with Academician Igor' Alekseyevich Glebov, chairman of the Presidium of the Leningrad Scientific Center of the USSR Academy of Sciences.

"First of all, I would like to point out the intense interest and attention that was given to our program when it was under consideration by the CPSU Central Committee," says I. A. Glebov. "Even before the adoption of the resolution specific and essentially important questions were presented to us with respect to all of its segments. And even though the overall program constitutes a rather large document consisting of many volumes and containing exhaustive data, its tasks were elaborated and its calculations were verified again and again. What is the number of people who will be freed from manual labor as the result of the technical re-equipping of production and what plans are being made for the utilization of these labor resources? What will the acceleration of the rate of economic development do for the economy of the city and the oblast? What effect will the intensive growth of the productivity of labor have on the quality of manufactured products? Even this short enumeration

graphically confirms how great the party's concern is for the residents of Leningrad and how responsible a role is being given to us in the advancement of scientific-technical progress.

"Every program has a precisely defined goal. In this instance we are accepting the task of essentially increasing the rate of economic growth on the basis of accelerating the intensification of all economic sectors and improving the utilization of the existing scientific-technical and production potential. In other words, there is one key word in this -- intensification, and there is a multitude of components. The program contains a large number of measures for improving the organization of production on the basis of the overall mechanization and automation of production processes, the massive introduction of new equipment and progressive technology, flexible automated production systems, automated planning and control systems, training of personnel..."

[Question] But, indeed, these component parts are already existing elements of our economy. What are the peculiarities of their utilization within the framework of the program?

[Answer] The development and introduction of automation and computerized systems in a more contemporary direction -- to a transition from localized automation of individual job sites to an integral and comprehensive automation of the complete "research-production" cycle -- are the primary means allowing for an appreciable increase in the effectiveness indicators of the national economic system. That is, an integrated production system is being developed. This is one of the determining concepts placed at the foundation of the intensification program.

[Question] What is the embodiment of this program?

[Answer] All research work is accomplished on the basis of computerized equipment with the help of machinery, and the productivity of labor is radically increasing in this phase already. The next phase: the development of actual manufactured articles, layouts, and mechanisms will be accomplished with the application of SAPR -- Systems for the Automation of Planning Work. Moreover, the developer or designer can see the complete process on a video display and if he so desires, he can make changes in it. The computer gives him the capability to turn to the electronic "memory" and obtain any source materials in any amounts. When the design is complete, the automated systems accomplish the industrial preparation of production, "communicate" with the machinery executing the process in the shops and sections, and transfer the proper commands to them. Systems for transporting and warehousing manufactured articles and accounting and control will be put into operation.

Such an integrated (comprehensive) production system, as the calculations show, is twice as effective as automated systems and means of mechanization, which are not coordinated.

[Question] Does this not mean, Igor' Alekseyevich, that the primary hero of this intensification program will be the computer?

[Answer] The primary executor of the program -- yes. A significant share of manual and inefficient labor and control functions will be transferred to its unfailing shoulders: the release of approximately an additional 100,000 industrial-production personnel is envisaged in the process of accomplishing the projected program. But the primary hero, the developer of the program, will without a doubt be a person who directs these most complicated systems and subordinates the exceptional mastery of these intelligent machines to his own will.

You will notice how familiar concepts in the sphere of production are changing -- already man no longer has the undivided monopoly on the mastery of lifeless steel and inanimate instruments. The pattern of relationships has become more complex: the intellect of the planner and the creator is contiguous (I would say cooperates) with the "intellect" of the computer and they supplement one another in know-how and professionalism. But in some respects -- let us say, memory and accuracy of execution -- man cannot compete with the computer. And our task, one of the assignments of the program, is to strengthen those aspects of the production process in which man has already achieved certain heights and to call upon the computer to assist him there where these heights cannot be achieved without modern technology.

[Question] Now that we have already touched upon the scientific-technical level of the intensification program, I would like to take a more detailed look at its basic segments.

[Answer] The territorial-sectorial program is integrated not only with respect to its technical characteristics, but also because it encompasses the development of the whole Leningrad region.

The immediate role is assigned to the development of fundamental research and development in the area of developing modern equipment and technology. The efforts of academicians, graduates of higher educational institutions, and sectorial and departmental organizations have been concentrated on this search. The administration and coordination of their work has been entrusted to the Leningrad Scientific Center of the USSR Academy of Sciences.

The other direction can be called industrial. It presupposes an increase in output from fixed productive capital and a change in the structure of capital investments.

Here it is important to emphasize that with all its dynamics and purpose aimed at a higher level of scientific-technical progress the intensification program does not at all presuppose or demand a grandiose program of new construction. Reconstruction will take place within the existing production system, and approximately 80 percent of all the capital will be primarily directed at conversion.

This principle is also retained in the next segment of the program, which encompasses the sphere of the municipal economy, transport and communications, health care, and public education although it should be recognized that currently the effect of scientific-technical progress is not so appreciable here and highly essential changes are to be expected.

And, finally, there is yet one more direction which provides for the further intensification of the agro-industrial complex on the basis of the extensive mechanization and automation of production processes and improved management. The efforts of scientific collectives are now already concentrated on key problems in improving agricultural production.

[Question] Igor' Alekseyevich, it is completely evident that many traditional forms and methods of production management are unacceptable for the accomplishment of such a complex multi-system program. Two questions arise immediately: what will be the management structure for all the projected jobs and toward what kind of actual personnel and what level of qualifications for workers and specialists will the program be oriented?

[Answer] Imagine the scale of activity: the measures of the program encompass 336 enterprises and organizations and 99 ministries and departments, and more than 600,000 people are participating in its accomplishment. It is necessary to skillfully combine the principles of sectorial and territorial planning in order to direct and coordinate all these efforts. We have experience in this: it is sufficient to recall the contract between 28 participants in the construction of the Sayano-Shushenskaya GES [Hydroelectric Power Plant], the regional energy program...

The "Intensification-90" Program makes it possible to combine the efforts of the party, Soviet and economic organs, and scientists and specialists in the achievement of excellent final results. A council for economic and social development and the acceleration of scientific-technical progress is functioning in the party obkom for this purpose. A buro was established for each direction, and it includes sectors and sections. This structure is supported by territorial links: analogous councils exist in all the city and rayon committees of the party. In this way the whole management system constitutes an organic combination of the party and economic leadership with a thorough scientific analysis and is built on a unified basis.

It is completely understandable that the successful accomplishment of the projected program is, to a significant degree, dependent on the level of personnel training. This is one of the critical questions: in a short period of time we must teach people to completely master the most complex equipment and to operate automated systems.

The accomplishment of the program has already begun -- and it can be called a program of action with respect to concrete results. While depending on accumulated experience, the scientific and labor collectives are introducing effective forms of production organization and are mastering the latest equipment. But this is only the necessary foundation, the basis for advancement. The program provides for a strengthening of economic intensification in the 12th Five-Year Plan and is setting the rate for even more accelerated growth in subsequent five-year plans -- and therefore is a precisely regulated, scientifically based program of acceleration.

Comprehensive Industrial Intensification Program

Leningrad LENINGRADSKAYA PRAVDA in Russian 10 Aug 84 p 1

[Article: "A Step Into Tomorrow"]

[Text] The news that the CPSU Central Committee has examined the question regarding the work conducted by the Leningrad Obkom on strengthening economic intensification on the basis of accelerating scientific-technical progress quickly spread throughout the shops of plants and factories, the design, planning, and scientific-research subdivisions of institutes and institutions, and the party committees and buros of Leningrad and the oblast. No one was indifferent to the document adopted by the CPSU Central Committee. And not just because the work devoted to it by Leningrad's Communists was highly praised and is looked at as an effective form of accomplishing the decisions of the 26th CPSU Congress, but, and this is the main thing, because a precise program of action until the end of the current five-year plan and until the year 1990 is outlined in it.

The peculiarity of the territorial-sectorial, special-purpose "Intensification-90" Program, worked out by the CPSU Obkom, lies, first of all, in the fact that it encompasses all economic spheres -- industry, transport, construction, agriculture, trade, and public services and represents a qualitatively new step in the development of modern industrial production on the basis of extensive automation, flexible automated systems, and modern computer equipment.

It is not a question of the localized automation of individual job sites (such experience has already been accumulated), but a question of a transition to an integral and comprehensive automation of the whole "research-production" cycle, which will make it possible to radically increase the rate of industrial output, to improve the quality of manufactured articles, to free up thousands of production workers, and to resolve many social problems.

It goes without saying, this work that is beginning today is not starting from zero. It is supported by the rich experience of labor collectives in the fulfillment of the well-known resolution of the CPSU Central Committee and the USSR Council of Ministers on accelerating scientific-technical progress in the national economy and on carrying out the decisions of the party oblast committee plenum, which was adopted last year, and is further supported by the many years of experience gained from the planning of economic and social development for Leningrad and the oblast.

The initiative of 28 Leningrad enterprises and organizations, which concluded a contract of creative cooperation in the construction of the Sayano-Shushenskaya GES, is, let us say, widely known. Its participants worked out and are accomplishing effective measures for accelerating and reducing the cost of construction on this vast power project. But the main thing, evidently, is that departmental barriers are being broken down and the actions of all the partners have been precisely coordinated.

We have already become accustomed to such concepts as ASU [Automatic Control System], EVM [Electronic Computer], and robots, which have been introduced in

scores of associations and enterprises and are helping to accomplish complex engineering and economic tasks.

The workers of Leningrad have entered the fourth year of the five-year plan with a new experiment -- the first five sections of flexible automated production systems were introduced into experimental operation in the Zavod imeni M. I. Kalinin Association, the Plant imeni A. A. Zhdanov, and others. Automated model-demonstration sections and shops will be put into operation by the end of the five-year plan in the Kirovskiy Zavod and Znamya Oktyabrya associations and in a number of other enterprises.

It is important to emphasize that all this work is being carried out on a scientific basis -- scores of scientific-research institutes, design buros, and planning organizations are participating in the development and introduction of new systems, and this work is being directed by a council on economic and social development and the acceleration of scientific-technical progress in the CPSU Obkom and by the Leningrad Scientific Center of the USSR Academy of Sciences.

Now that the "Intensification-90" Program has been examined and approved and a system of measures providing for its realization has been worked out by the CPSU Obkom, all the organizational and political work of the party committees, the primary party cells, and economic organs and specialists should now be directed at the practical accomplishment of the projected plan, the unconditional fulfillment of the plans and socialist obligations for 1984, the successful completion of the current five-year plan, and the improvement of the effectiveness of the whole Leningrad economy in the 12th Five-Year Plan.

The "Intensification-90" Program is a specific matter. And, in organizing its accomplishment, one must not be limited by general discussions. In each enterprise, in each shop, in every section, and in every department (regardless of the sector in which the subdivision is found) it is necessary to precisely define specific boundaries and the ways and means of advancing forward to the intended goal, to place the accomplishment of the plans of scientific-technical progress under the strictest party control, to establish who among the specialists and directors is responsible for what, and to determine what kind of assistance is needed. The forthcoming party meetings, at which Communists will discuss immediate tasks, should do much to facilitate this.

At first glance, the discussion is about matters that are usual and familiar to everyone. But this is only at first glance since today it is a question of a qualitatively new approach to accomplishing the tasks set forth by the 26th CPSU Congress and subsequent Central Committee plenums.

As experience shows, far from all the specialists are psychologically prepared for the intended reorganization. Many of them do not possess the necessary technical knowledge and are poorly equipped to deal with the methodology of developing and operating integrated automated systems and questions relating to the improvement of the organization of labor, planning, and production control. It is for this very reason that all the links of our large party family -- from the gorkom [city party committee] and raykom [rayon party committee]

to the party group -- are obligated once again to carefully scrutinize how Communists are placed in production, and if necessary to strengthen decisive sections and direct completely knowledgeable and responsible workers to them.

It is no less important to concentrate the party's efforts on the further improvement of the training and retraining of personnel -- indeed, the central figure in the final count in any production system remains a person, who operates the most sophisticated machines. Today's school children, the students of vocational-technical institutes, the students of a higher educational institutions, and the students of specialized secondary institutes will be tomorrow's production workers. And we should already now be thinking about how to equip them with the necessary knowledge. The school reform, the accomplishment of which we have already begun, is opening up unlimited opportunities in this area. This also applies to the retraining of specialists and workers to an equal degree.

Purposefulness, efficiency, and a high level of exacting requirements are that which is important today when we come to grips in earnest with the accomplishment of the "Intensification-90" Program. Whatever it may be a question of today -- the development of flexible automated production systems or new progressive machinery and technology, the conversion of existing production plants or the construction of new ones, the conservation of resources -- the immediate role should be assigned to fundamental scientific research, the foundation of foundations for any achievements. And here a special role belongs to Communists -- scholars and specialists who have been called upon to lead the campaign of the workers of Leningrad for improving economic effectiveness in the 12th Five-Year Plan. The scientific collectives should carefully consider how to organize their work and how to ensure that the yield from it will not only be quick but also substantial.

In this connection it is no sin for each labor collective to become familiar with the course of the large-scale experiments which are being conducted in a number of Leningrad enterprises and are aimed at increasing the efficiency of their work. It is time to learn useful lessons from new experience and to adopt all the good things achieved by these pioneering collectives for the benefit of each collective. It is important to act with skill, initiative, persistence, and decisiveness to cut through interdepartmental red tape and to take the offensive on a broad front.

Another, no less important direction is to achieve an increase in the yield from existing fixed productive capital already today by means of increasing the share of capital for conversion and the technical re-equipping of enterprises and to direct available capital investments to the intensification of production. From the very beginning it is imperative to establish strict quality control over the processing of new technical decisions and not to allow situations in which obsolete manufacturing methods and backward forms of production and labor organization are "introduced" into new shops and newly converted sections. It is very important that engineering services, on which the practical accomplishment of the planned measures are dependent, daily feel the presence and influence of the party and know that neither success nor failure escapes the field of vision of Communists.

It is natural that much will depend on the work of the CPSU raykoms and gorkoms and the councils on economic and social development and the acceleration of scientific-technical progress attached to them. The requirement of the day is not only to know the state of affairs at the job site, but also to come forward as organizers of an accelerated introduction of innovations. It seems that in this connection it is not out of place to recall the vast opportunities of the patriotic movement of Leningrad workers under the slogan: "All production growth -- by means of technical progress, the maximum utilization of equipment, and the careful expenditure of resources!". Unfortunately, these opportunities are not being used everywhere and are far from being used to the fullest. Evidence of this is the fact that a number of enterprises has fallen behind in the accomplishment of the 6-month program, in the task to increase the productivity of labor and to reduce the prime cost of production, and in contract obligations. To decisively contrast deficiencies and miscalculations with a high level of organization and discipline is a matter of honor for each labor collective, its vanguard -- the party organization.

The course is intensification! Everyone now understands this. However, far from all the party committees connect the accomplishment of this course with the decisive improvement of ideological and mass political work. Here and there the organization of economic and vocational studies for workers is being approached in the old way, little concern is given to raising the ideological level of workers and specialists, and inadequate explanation is given of the new tasks connected with the further improvement of developed socialism as set forth by the party and Comrade K. U. Chernenko, general secretary of the CPSU Central Committee and chairman of the Presidium of the USSR Supreme Soviet. This is especially intolerable today when the people of Leningrad, as all the Soviet people, have entered the final stretch of the current five-year plan. There is no time to spare, as they say, we are faced with actual tasks. Our obligation is to accomplish them completely and precisely on time. And the people of Leningrad are filled with resolve to accomplish the projected program. This will be the best answer to the daily concern of the CPSU Central Committee for the further economic development of the city of Lenin and our oblast, our contribution to the accomplishment of the decisions of the 26th CPSU Congress.

10576
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COMPLEXITY OF MEASURING EFFICIENCY OF NEW TECHNOLOGY CITED

Moscow EKONOMICHESKIYE NAUKI in Russian No 3, Mar 84 pp 35-38

[Article by A. Alimbayev, docent, candidate of economic sciences, Karaganda: "The Useful Effect of New Equipment and Its Measurement"]

[Text] The purpose of improving the quality of equipment is to reduce expenditures of social labor per unit of the final result of production. Proceeding from this, evaluation of the quality of equipment should be done on the basis of an indicator for the unit of useful effect derived from the use of given equipment in accordance with its functional design.

The technical possibilities of production now make it possible to significantly improve the quality of many kinds of equipment being produced, but improvement of its useful properties requires considerable expenditure and is not always economically rational (as is known, in some cases there is no social need at all for articles of better quality than those already being produced; expenditures to improve the useful properties of output are often irrational when measured against the effect achieved). At the same time, the poor quality of equipment that fails to meet consumer requirements leads in the process of its use to extra or excessive expenditures. Consequently, one very important task is to optimize the level of quality for equipment produced.

The optimal quality for a product is a variable that depends on the level of development of production forces and scientific and technical progress. Under conditions of planned socialist production possiblities exist for taking the optimal variant of new equipment, that is, equipment that requires less expenditure of social labor per unit of useful effect derived from it.

The systematic renewal of equipment under the conditions of scientific and technical progress leads to an increase in the unit capacities of machines and equipment and their productivity, and to prolonged service life and reliability and a rise in the level of control automation. On the one hand this insures that a greater effect is derived from the use of equipment by consumers, while on the other it objectively gives rise to increased labor intensiveness in its manufacture. Analysis and evaluation of the useful effect make it possible to fully consider the dynamics of both these processes.

In the CPSU Central Committee and USSR Council of Ministers decree "On Measures To Accelerate Scientific and Technical Progress in the National Economy," along

with enhancing the responsibility of producers for new equipment, provision is made for enhancing the role of consumers in drawing up plans for its development and production. In particular, clients that are ministries bear the responsibility for the indicators established in the technical tasks for the development of new kinds of output that falls below the level of the best of today's models.* The resolution of this kind of task makes more urgent the problem of measuring the quality of output and determining its useful effect. This question constitutes part of a more general question, namely evaluation of the economic effectiveness of new equipment. At the same time, while it is based on the general methodological principles for determining the economic effectiveness of capital investments and new equipment, the methodology for calculating the useful effect of new equipment has certain special features.

When determining the useful effect of improvements in the quality of new equipment it is necessary to compare the final economic results reflecting change in the magnitude of socially necessary expenditures both in the production sphere and in the sphere of product demand. The concept "useful effect" has the most direct bearing on the resolution of questions concerned with improving the efficiency of social production, comprehensively improving output quality, and satisfying more fully the constantly growing demands of society and improvements in the people's well-being. It is thus the more important to define this concept unambiguously, which has not yet been done. In particular, in the opinion of D.S. L'vov, "by useful effect we understand useful work or a special return from the use of a unit of output in the appropriate conditions for its use. For machines and equipment, useful effect is defined as the volume of output or work effected in a unit of time."** A.A. Koshuta and L.I. Rozenova write: "By useful effect for new equipment we understand the aggregate of all its operational parameters (quantitative, qualitative, social and economic). The total value expression for useful effect $Э_п$ can be determined by the following formula:

$$Э_п = Ц_{н.п} - Ц_б, \qquad (1)$$

where $Ц_б$ is the price of the base (assimilated earlier) article."***

In our opinion, for a correct evaluation of the useful effect of new equipment what is primarily needed is consideration of the volume and structure of the resources that society allocates in order to resolve a corresponding task at

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* PRAVDA 28 Aug 83 p 1.

** D.S. L'vov. "Ekonomika kachestva produktsii" [Economics of Output Quality] Moscow, 1972, p 106.

*** A.A. Koshuta and L.I. Rozenova. ""Kachestvo i tseny produktsii mashinostroyeniya" [Quality and Price in Machine Building Output] Moscow, 1976, p 90. By is meant the price of produced output.

any given moment of time. The problem of commensuration of different economic boons occurs because at any stage in a society it is necessary to resolve the question of satisfying diverse demands under conditions of a finite total accumulation fund. The criterion for useful effect for new equipment is of a socioeconomic nature and consequently cannot be elicited only with the aid of strictly quantitative parameters. Minimum expenditures of social labor on production and consumption of new equipment can be achieved without changing its productivity. Thus, prolonging the service life and reliability of equipment, and also the automation of control, does not raise its productivity but it does considerably reduce expenditures on operation and on the whole leads to increased productivity for social labor. In addition to the changes in the quantitative characteristics of new equipment, consideration must also always be given to improvements in its qualitative characteristics, including those relating to social-hygiene working conditions.

As already noted, quality is measured with the aid of a system of indicators characterizing the degree of satisfaction of specific need. It is precisely this feature that distinguishes the indicator for quality from other indicators, including their value indicators such as prime cost, price and profit, with whose aid it is not possible to make direct measurements of the degree of satisfaction of need.

Investigation of the quality of a product presupposes consideration of its influence on the socioeconomoic effectiveness of production. Here, the magnitude of useful effect is also an indicator that characterizes not quality itself but the result obtained from the use of equipment at a given level of quality in the national economy, that is, the socioeconomic results from its use.

Useful effect is in most cases a criterion for optimizing equipment quality and for selecting the most efficient variant of a manufactured article. By referring to the useful effect of new equipment it is possible not only to solve the question of which of existing articles insure that the best socioeconomic effect is obtained, calculated per unit of expenditure, but also as early as the planning stage, to optimize the values for the indicators of quality, aimed at insuring maximum possible satisfaction of society's needs, given specified expenditures (or satisfaction of given requirements given minimum expenditure).

The need in a socialist (or communist) society to compare the useful effect of various kinds of output in order best to satisfy requirements was foreseen even by the classics of Marxism-Leninism. Thus, F. Engels wrote: "... society should be able to know how much labor is required to produce each object of consumption. It [society] should be able to weigh its production plan against the means of production, which, in particular, also include manpower. This plan will be determined in the final analysis by weighing and comparing the useful effects of different objects of consumption one with another and with the amount of labor necessary for their production."*

* K. Marx and F. Engels. Works, 2d edition, Vol 20, p 321.

Thus, the question of selecting the best from many possible variants of production can be presented and resolved by comparing the useful effects of various kinds of new equipment with the amount of labor required to achieve them. This kind of weighing and comparison requires indicators that are of the same quality. Even though this thesis is very obvious, its realization encounters a number of serious difficulties of a methodological and practical nature. The greatest of these is that because of the great variety of demands, in order to select an optimal variant for new equipment it is essential to have a common yardstick for the satisfaction of demands, that is, a quantitative expression for useful effect. At present, however, it is not possible to express this magnitude quantitatively.

The complexity of the problem also increases because it is impossible to absolutize any assertion about the preference of one unit of good [blago] over another. This is explained by the fact that individual indicators for quality exert different influences on the magnitude of useful effect. For example, the indicator for the weight-bearing capacity of an automatic mine prop exerts its influence mainly on the change in the consumer's capital costs. But the indicator for reliability in the mechanized complexes affects the change in expenditure on maintenance and hardly affects capital investments connected with the acquisition of this equipment.

The simple total of the individual indicators does not enable calculation of differences in the system of indicators for quality or a correct evaluation of the aggregate useful effect of new equipment. Whereas the useful effect in consumption is a common economic form for realizing output quality, with regard to new equipment, in the final analysis this form is the improvement in its individual indicators for quality. And this is directly associated with the economic effect that the consumer expects depending on the specific conditions. Therefore, improvements in any indicators for the quality of equipment represent an individual useful effect derived from its use.

The useful effect from the use of equipment can include a number of individual useful effects. By comparing each of them with the associated expenditure of live and embodied labor we obtain a large number of indicators for effectiveness.

Thus, useful effect is a complex, synthesized indicator that is built up from isolated, individual useful effects. In the final analysis the magnitude of useful effect depends on the dynamics in change for each individual useful effect and on the position that the individual useful effect occupies in the sum. This indicates that the indicator for the dynamics of individual useful effects is a comlex aggregate magnitude expressed through indexes.

Use of an index method makes it possible first to determine the direction of change in the quality of output by means of comparing the level of quality being studied with a base level, and second to reveal the influence of individual factors on the magnitude both of the useful effect and its components.

Comparison of the levels of individual useful effects for new and base equipment makes it possible to determine an individual index of useful effect $i_{\text{пз}}$, taking

into account the quality of output showing change in the individual useful effect. It can be calculated from the formula

$$i_{пэ} = \frac{ПЭ_1}{ПЭ_0}, \qquad (2)$$

where $ПЭ_1$ is the unit of useful effect for new equipment, and $ПЭ_0$ is the useful effect for the base equipment. Given $i_{пэ} < 1$ the useful effect falls; when $i_{пэ} > 1$ it rises.

In like manner the individual index for expenditure of live and embodied labor in order to improve the individual useful effect is calculated from the formula

$$i_з = \frac{З_1}{З_0}, \qquad (3)$$

where $З_1$ and $З_0$ are expenditures for new and base equipment respectively.

Economic-statistical evaluation of the unit of useful effect presupposes the use of increases in the individual useful effect and expenditures for determining the economic effectiveness of change in the quality of new equipment, that is,

$$Э_i = \frac{\Delta ПЭ}{\Delta З}, \qquad (4)$$

where $Эi$ is the effectiveness of expenditures of social labor associated with improvement in the quality indicator according to the i^{th} unit indicator; $\Delta ПЭ$ the increase in the individual useful effect; and $\Delta З$ the increase in expenditures of live and embodied labor.

In our opinion analysis and evaluation of individual useful effects should be done in two stages: in stage one it is necessary to determine aggregate indicators for quality according to each kind of equipment; in stage two the extra expenditures of live and embodied labor resulting from the derivation of individual useful effects should be calculated. The aggregate indicators for quality are determined by proceeding from the design features of a machine and its designation. Practical work in the use of the correlation method in evaluating the quality of output shows that it is possible to significantly reduce the number of individual indicators for quality. The possibility of realizing stage one cannot therefore be in doubt. With regard to stage two, it is accompanied by definite difficulties. The existing system for calculating expenditure on production makes it possible to obtain information on some expenditures associated with output quality, and therefore calculation methods should be used to determine them. They are based on the provisions of existing methodology for planning, reckoning and calculating output prime cost at industrial enterprises, and they consist of the application of estimate rates in the allocation of expenditures for quality that make up part of the expenditures for equipment content and operation, or use of the method of allocating expenditures for quality proportional to the wages of industrial workers and expenditures on equipment content and operation if expenditures for quality are part of shop and general plant expenditures.

The use of calculation methods for eliciting expenditures on insuring quality improvement makes it possible not only to assess the cost of individual kinds

of work necessary for this but then also to move on to the construction of optimized models for regulating expenditures in order to determine the efficient functioning of an output quality control system. It is also important that the study of the structure and level of actual expenditures to improve individual indicators for equipment makes it possible on the basis of figures derived from previous experience to determine trends in the movement of future operating expenditures, and this acquires particular importance when setting up a complete output quality control and management system.

The proposed method makes it possible on the basis of a study of the requirements of practice and of specific needs to focus the attention of designers on those indicators for articles in which backwardness is still seen.

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